## **AMENDMENTS TO THE CLAIMS**

1. (Currently amended) A CO<sub>2</sub> incubator for incubating a culture medium accommodated in an incubation space defined in a storeroom, the CO<sub>2</sub> incubator comprising:

CO<sub>2</sub> gas concentration detection means for detecting a CO<sub>2</sub> concentration in the incubation space,

CO<sub>2</sub> gas concentration setting means for setting the <u>a desired</u> CO<sub>2</sub> gas concentration to <u>be present</u> in the incubation space,

CO<sub>2</sub> gas supply means for supplying a CO<sub>2</sub> gas into the incubation space, and a control means for controlling the CO<sub>2</sub> gas supply means<sub>5</sub>

wherein the control means that executes an operation of proportion, proportion and integration, or proportion and integration and differentiation on the basis of a deviation between the CO<sub>2</sub> gas concentration in the incubation space as detected by said CO<sub>2</sub> gas concentration detection means and a the set CO<sub>2</sub> gas concentration value by the CO<sub>2</sub>-gas concentration detection means and the set by said CO<sub>2</sub> gas concentration setting means to calculate a CO<sub>2</sub> gas supply time per unit time to the incubation space and a stop time, and supplies a to supply CO<sub>2</sub> gas to the incubation space from the CO<sub>2</sub> gas supply means in accordance with the calculated supply time and stop time.

- 2. (Original) The CO<sub>2</sub> incubator according to claim 1, wherein the CO<sub>2</sub> gas concentration detection means is constituted of a CO<sub>2</sub> sensor using infrared rays.
- 3. (Currently amended) The CO<sub>2</sub> incubator according to claim 1 or 2, wherein a plurality of incubation spaces are disposed in the incubator and

the control means selects the gas in any incubation space, detects the  $CO_2$  gas concentration of the selected gas by the  $CO_2$  gas concentration detection means, and controls the

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supply of the CO<sub>2</sub> gas to each incubation space in accordance with the detected CO<sub>2</sub> gas

concentration.

4. (Original) The CO<sub>2</sub> incubator according to claim 3, wherein the control means displays the CO<sub>2</sub>

gas concentration detected in each incubation space.

5. (Currently amended) The CO<sub>2</sub> incubator according to claim 2, wherein a plurality of incubation

spaces are disposed in the incubator and

the control means selects the gas in any incubation space, detects the CO<sub>2</sub> gas

concentration of the selected gas by the CO<sub>2</sub> gas concentration detection means, and controls the

supply of the CO<sub>2</sub> gas to each incubation space in accordance with the detected CO<sub>2</sub> gas

concentration.

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